

Choosing a Career in Advanced Endoscopy or General Gastroenterology

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One of the most important questions facing gastroenterology (GI) trainees as they progress through fellowship is whether to sub-specialize: choosing a career focus such as hepatology, inflammatory bowel disease, academic investigation, advanced endoscopy, or to choose general gastroenterology. Advanced endoscopy continues to remain popular, with applicant numbers increasing every year [1]. What steers fellows toward the decision to become an advanced endoscopist?

The decision to pursue a fellowship in advanced endoscopy is informed by many important factors [2, 3], including the ability to provide advanced diagnostic and therapeutic services in the management of patients with complex GI disease. From the development of the flexible fiber optic endoscope in 1958 to the advent of endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic ultrasound (EUS) in 1968 and 1980, respectively, the technologic advances underlying endoscopy have been remarkable [4]. The development of novel techniques such as endoscopic mucosal resection (EMR), EUS-guided pancreatic therapy, enteric stenting, and per-oral esophageal myotomy (POEM) represents just a few of the many interventions that can be learned during advanced endoscopy fellowship. These challenge the current paradigms of clinical care, providing an array of therapeutic options. Conditions that have historically been managed surgically such as early stage GI malignancy, necrotizing pancreatitis,

malignant obstruction, and achalasia can now be managed endoscopically, reducing morbidity while offering diagnostic, palliative, and therapeutic treatment options [5–8]. Advanced endoscopists are indispensable part of GI services of any major academic center or large group practice.

When considering a career as an advanced endoscopist, one consideration is procedural complications. While complications invariably accompany all endoscopic procedures, complications from advanced procedures may be frequent and serious. ERCP is associated with a significantly higher risk of complications than standard colonoscopy (1.67 vs. 0.02–0.07%), carrying a sixfold higher risk of perforation (0.6 vs. 0.1%) as well as a 0.3–2.0% risk of bleeding, 3–15% chance of post-ERCP pancreatitis, numerous infectious complications, and an overall mortality rate of 0.3–0.7% [9–12]. An advanced endoscopist needs to be cognizant of these higher complication rates and be willing to accept them [13], understanding that these risks are largely mitigated by the even higher risks engendered by the alternatives to these procedures, such as surgery.

The complexity of advanced procedures reflects the need for additional fellowship training and also the responsibility for the practitioner to maintain advanced endoscopic skills over time. Furthermore, an essential element characteristic of a successful advanced endoscopist is understanding the intricacies of patient selection, namely identifying which patients may benefit from these complex interventions. While the number of endoscopic procedures one performs does not necessarily equate to competence and quality [14], low procedural volume is directly associated with adverse outcomes. In a prospective multicenter study performed in 2009, Loperfido et al. [15] evaluated 2769 patients, reporting that low procedural

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volume, defined as performing <200 ERCPs per year, was an independent predictor of complications.

On the other hand, an advantage to a dedicated year of endoscopic training includes the overall enhancement of one's procedural competency and confidence in upper and lower GI procedures. For example, the detailed approach required in performing a successful mucosal resection of a large colon polyp or assessment of a pancreatic cyst via endoscopic ultrasonography remains a critical aspect of advanced procedures. A focused year of training engrains this approach into the mindset of the endoscopist. This is not usually the case in most 3-year training programs where endoscopic training is fragmented due to a variety of other commitments including clinics, inpatient consultations, and research requirements.

In pursuing a career in advanced endoscopy, the necessity of practicing in a high-volume center may limit employment opportunities to large universities or major urban community hospitals. To complicate matters further, the number of applicants for advanced endoscopy training positions may exceed availability. In a recent survey of advanced endoscopic fellowship applicants performed by Trindade et al., 69% of fellows expressed an interest in pursuing an academic career. Of the sixty-one positions listed by the American Society of Gastrointestinal Endoscopy (ASGE: asgmatch.com > program search > ERCP & EUS programs > all institutions > US) advanced endoscopy fellowship match [2], as few as twelve academic advanced endoscopic training positions are available in some years [16]. If academic employment is sought by approximately forty graduating advanced fellows, they may have to compromise on the employment setting or geographic location.

On the other hand, senior fellows following graduation may want to pursue a career, which encompasses their entire range of training that they acquired over the 3 years of gastroenterology fellowship. Unlike some specialties that focus on a single organ system, gastroenterologists provide care to patients with a variety of disorders across multiple organ systems including the esophagus, stomach, intestines, colon, liver, pancreas, and gallbladder. Having that variety and breadth may provide for an engaging and rewarding career, especially as new developments arise within the field. General gastroenterologists interact with multiple providers from other specialties, which also adds to the depth of the specialty. Often general gastroenterologists are able to develop a strong patient–physician relationship when treating chronic conditions. Being a general specialist also opens the field for a large variety of employment opportunities. A multi-specialty private practice located in a suburban environment will more likely have an opening for a general gastroenterologist than an

advanced endoscopist who specializes in a highly specialized procedure.

Financial aspects may also dictate the decision process. The additional training required to pursue a career in advanced endoscopy does not necessarily equate to a higher income. In many cases, the opposite may be true, especially if salary is heavily based on relative value units (RVU). This is true in private practice and even in academic settings, reflecting the observation that time-consuming advanced procedures reimburse less per time spent than many other GI procedures and interventions. While exact procedural times are operator and case dependent, on average, therapeutic procedures are allotted appointments three to four times the length of standard procedures and can therefore generate proportionally less income [17]. Comparing RVUs, according to the American College of Gastroenterology (ACG), the 2016 Medicare RVU assigned to colonoscopy and polypectomy [current procedural terminology (CPT) code 44392] is 3.63 compared to 8.58 for an ERCP with stent placement (CPT 43274) [18]. In a recent study assessing the economics of EUS in an academic center, Faigel [17] evaluated reimbursement rates for EUS compared to upper endoscopy and colonoscopy over a 1-year period. Not surprisingly, they determined that standard endoscopy generated 2.1 times more revenue than EUS for each half day [17]. Considering comparable utilization and reimbursement between EUS and ERCP, one can infer a similar association with ERCP [19, 20]. In the private sector, the economics may be even less favorable for advanced endoscopy. In this environment, income is typically generated from professional and facility fees. Professional fee is that charged by a physician for performing a procedure. A facility fee is an additional fee the owners or equity partners of ambulatory endoscopy centers can charge for performing a procedure in that center, often a major financial incentive of private practice, typically generating a substantial amount of income. Since the majority of standard endoscopic cases can be performed safely in an outpatient ambulatory surgical center, they usually generate both professional and facility fees, not the case with advanced procedures. These procedures are usually more complex and often require specialized equipment (e.g., fluoroscopy) or anesthesia support, requiring performance in hospital endoscopy suites rather than in ambulatory endoscopy centers, thus unable to generate facility fees [20]. Furthermore, advanced endoscopists may be viewed as higher risks by insurance companies and charged higher medical malpractice and liability insurance premiums [20].

In conclusion, the decision on whether or not to pursue therapeutic endoscopy is complex, requiring the consideration of many important variables. While there are real

financial implications and employment restrictions, therapeutic endoscopy remains a unique and rapidly progressing field that enables the performance of a variety of satisfying, exciting, and rewarding procedures drawing on novel technologies and techniques that push the boundary of how GI disease is managed. In an increasingly complex, and competitive healthcare environment in which it is not uncommon for physician assistants or nurse practitioners to perform routine upper and lower endoscopic procedures, developing additional competencies in evolving and technologically advanced areas of gastroenterology enhances the value of the provider to his or her overall institution. In the end, we should choose to pursue what we like best. It is hoped that this essay, while discussing the pros and cons of pursuing a career in advanced endoscopy or general gastroenterology will provide relevant information to a senior fellow while they plan their transition to be a practicing gastroenterologist.

Compliance with ethical standards

Conflict of interest None.

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